

## **REMARKS/ARGUMENTS**

These remarks are made in response to the Office Action of May 4, 2007 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

### **Double Patenting**

Claims 1, 4-6, 8, 12-19, 22-24, 26, and 31-35 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 3-7, 10-13, 16-26, and 29-31 of co-pending Application No. 10/665,585. Claims 1, 4-8, 11-14, 16-19, 22-26, 29-32, and 34-35 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 4, 10-14, 16-17, 20, and 26-30 of co-pending Application No. 10/665,586. Claims 1-4, 7-11, 16-22, 25-29, and 34-35 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-3, 6-9, 14-19, and 22-26 of co-pending Application No. 10/666,309. Claims 1, 4, 7-8, 11, 16-19, 22, 25-26, 29, and 34-35 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 5, 7-11, 13-17, 18-20, 24, and 26-29 of co-pending Application No. 10/665,582. Claims 1, 4-5, 7-8, 11, 16-19, 22-23, 25-26, 29, and 34-35 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-4, 8-11, 13, 18-23, 25, 29-34, and 40 of co-pending Application No. 10/665,350.

Applicants submit herewith terminal disclaimers to obviate the double patenting rejections over the above co-pending applications and thus request that the double patenting rejections be withdrawn.

### **Claims Rejections – 35 USC § 101**

Claims 8-18 and 26-35 were rejected under 35 U.S.C. § 101 as claiming non-statutory subject matter. More specifically, claims 8-15, 26-33, and 35 were rejected under 35 U.S.C. § 101 because it was asserted that the claims recite a judicial exception (software) and no physical transformation is recited and the final result of the claims is determining operational metrics for the transaction which is not a tangible result. Claims 16-18 and 34-35 were rejected because it was asserted that the Applicants appear to be claiming only software without claiming associated computer hardware required for execution, are not supported by either a specific and substantially asserted utility (i.e., transformation of data) or a well established utility (i.e., a practical application).

First, there is no legal basis to categorize software as a judicial exception, which includes abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature. Software can solve practical problems in the real world rather than being merely mathematical algorithms. Second, determining operational metrics is very important in problem troubleshooting, grid planning, and software deployment (see, e.g., paragraph [0006] of the specification), and is thus very much a practical application. The operational metrics determined can be used for resource management to solve performance and load problems (see, e.g., paragraph [0006] of the specification), and thus are very tangible "real-world" results. Third, claims 26-33 recite a machine-readable storage, which is a notoriously well-known patentable subject matter. Fourth, 16-18 and 34-35 recite a ghost agent and system for gathering and determining operational metrics, respectively, which can be implemented as a hardware or combination of hardware and software.

In view of the forgoing, Applicants request that the rejections under 35 U.S.C. § 101 be withdrawn.

### **Claims Rejections – 35 USC § 112**

Claims 1-35 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

With regard to claims 1, 19, and 34, it was asserted in the Office Action that it is unclear how the determination of operation metrics takes place and upon which portion the operation metrics are determined. The determination of operation metrics can take place in various ways, which are described in paragraph [0038] of the specification. The present invention is not limited to any specific portion upon which the operation metrics are determined. It was also asserted in the Office Action that it is unclear whether "moving said host" is performed based on the operational metrics or if it is performed all the time. It is noted that it is not important when the host moves. What is important is that whenever the host moves, the associated ghost can move accordingly (see paragraph [0030] of the specification). It was further asserted in the Office Action that it is unclear whether the agent remains coupled with the host during all moves or if the agent simply moves when the host moves. It is noted that both scenarios are within the scope of the present invention and there is no reason to differentiate between them.

With regard to claims 5 and 23, it was asserted in the Office Action that it is unclear how the "generating test input" step is connected to the rest of the method. It is clearly described in paragraph [0033] of the specification that test input can be constructed to test a new guild before it is fully enabled.

With regard to claims 6 and 24, it was asserted in the Office Action that it is unclear whether the step of "deploying at least one ghost agent" is the same or different from the step of "responsively moving" in claim 1. The step of "deploying at least one ghost agent within a test segment" is clearly not the same step of "responsively moving" in claim 1. It was also asserted in the Office Action that it is unclear whether there are multiple ghost agents available since claim 1 mentions "ghost agent" in the singular. It is

clear from the language of the claims that there could be multiple ghost agents. The wording "said deployed ghost agents" in claims 6 and 24 has been amended to "said deployed at least one ghost agent" to avoid any confusion. It was further asserted in the Office Action that it is unclear whether the "tests" are performed based on the test input of claim 5. Please note that it is clearly described in paragraph [0033] of the specification that "active ghost agents utilizing this test input can be deployed in a test segment of the grid environment established for testing the MMPG."

With regard to claims 8, 26, and 35, please note that the language of the claims clearly recite that the actions are executed within multiple locations of a grid environment. It is also clearly described in paragraph [0046] of the specification that the "ghost interface can generate replicated actions 555 that are copies of the actions executed by the host 505, using any of a variety of suitable techniques."

With regard to claim 16, it is clearly recited in this claim that the purpose of the ghost log is to record operational metrics relating to activities performed by the host.

With regard to claim 17, it is clearly recited in this claim that the purpose of the ghost identifier is to identify the ghost agent to components within the grid environment.

### **Claims Rejections – 35 USC § 102 and 103**

Claims 8-10, 26-28, and 35 were rejected under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent 6,122,664 to Boukobza, *et al.* (hereinafter Boukobza).

Claims 11-15 and 29-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boukobza. Claims 1-7, 16-25, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Boukobza in view of U.S. Patent 6,681,243 to Putzolu (hereinafter Putzolu).

Although Applicants respectfully disagree with the rejections, Applicants have amended the claims so as to expedite prosecution of the present application by

emphasizing certain aspects of the invention. However, such amendments should not be interpreted as the surrender of any subject matter and Applicants reserve the right to present the original version of any of the amended claims in any future divisional or continuation applications from the present application.

Specifically, Applicants have amended independent Claims 1, 8, 16, 19, 26, 34, and 35 to further emphasize certain aspects of the invention. Some dependent claims have also been amended to provide overall consistency. As discussed herein, the claim amendments are fully supported throughout the Specification. No new matter has been introduced by the claim amendments.

#### Aspects of Applicants' Invention

It may be helpful to reiterate certain aspects of Applicants' invention prior to addressing the cited references. One embodiment of the invention, as typified by amended Claim 1, is a method for gathering operational metrics within a grid environment.

The method can include identifying a host, wherein the host is a software object operating in a grid of the grid environment; and associating a ghost agent within the grid with the host, wherein the ghost agent is configured to replicate and record at least one action of the host within the grid.

The method also can include determining operational metrics for at least a portion of the recorded at least one action; and recording the operational metrics.

The method further can include moving the host from the grid to another grid within the grid environment; and, in response to the moving of the host, moving the ghost agent from the grid to the another grid in accordance with movement of the host.

**The Claims Define Over The Prior Art**

Boukobza discloses a process for monitoring a plurality of object types of a plurality of nodes using a management node in an information system. Boukobza further discloses monitoring the various nodes by using the management node to install a single autonomous agent in each node to be monitored, where the autonomous agent can be configured to monitor software objects, conditions, parameters, and actions in the particular node in which the agent is installed (see, e.g., the abstract as well as col. 2, lines 21-38). The management node can then retrieve data collected by the various autonomous agents to perform further analysis of the performance of each node (see, e.g., col. 6, lines 30-34).

However, Boukobza fails to disclose or suggest a ghost agent being associated with each host software object. Instead, Boukobza discloses a single autonomous agent being associated with a single node, grid, or device, not a single host software object traversing the grid environment (see, e.g., col. 2, lines 20-37). The autonomous agent of Boukobza is provided to allow decentralized control of individual nodes, allowing each node to continuously and independently respond to changes in system performance and resources without having to regularly rely on a central system or external resources (see, e.g., col. 2, lines 39-55).

In contrast, the present invention provides an individual ghost agent that associates with an individual host software object, not with a node, grid, or device. Furthermore this ghost software object moves with the associated host software object and records the actions of the associated host as the host traverses the grid environment. Thus, potentially, a single ghost software object in the present invention could record every action of an associated host software object, regardless of which node or grid the actions of the associated host software object occur in.

In the Office Action, on page 12, it is acknowledged that Boukobza does not explicitly disclose the step of moving an associated ghost software object from a first grid to a second grid in response to moving of the host software object from the first grid to the second grid. However, it is asserted in the Office Action that such a capability is disclosed in Putzolu. Applicants respectfully disagree.

Putzolu discloses a method of providing agents that move among network devices to manage the operation of the devices in the network (see, e.g., Abstract). However, Putzolu fails to disclose associating with and copying the movement of another software object, as in the present invention. Putzolu instead discloses that agents move in response to demands on device resources in order to travel to the appropriate network device and make any necessary adjustments to improve network performance (see, e.g., col. 11, lines 49-53). In Putzolu, agents are not associated with software objects. At the most, such agents are associated with a node, as the agent can be configured to reside at a particular node according to a user command (see, e.g., col. 5, lines 9-19). However, nowhere does Putzolu disclose that such agents can be associated with another software object or that they would follow another software object automatically. In Putzolu, movement is instead based on responding to commands or problems in the network. For example, an agent in Putzolu, would not travel along with software objects arriving at a node the agent is currently at. Instead, the agent of Putzolu would travel through the grid independently, attempting to ascertain the source of software objects arriving at the node and to make any adjustments necessary to improve performance. However, such movement is independent of the subsequent destination of a software object arriving at the original node. As such, the agent of Putzolu cannot replicate and record actions for gathering operational metrics of the actions of a host since agents and software objects do not travel together.

In contrast, the ghost agent provided by the present invention would associate with a specific object and follow the object as it leaves the node and travels to other nodes, in order to record their actions for the purpose gathering and determining operational metrics.

Therefore, Applicants respectfully submit that extending the method of Boukobza to include the agent of Putzolu would not teach or suggest the present invention. As previously stated, Boukobza is directed to continuously monitoring and evaluating individual machine or node performance using one or more autonomous agents. Putzolu is directed to managing performance of network nodes by using agents that can travel from node to node and make needed adjustments. However, neither Putzolu nor Boukobza discloses that the agents would be bound to software objects. Allowing the autonomous agent to move from node to node, as suggested in Putzolu, only allows the agent to travel among nodes and make adjustments to devices based on current device and network conditions. However, such a combination still does not provide for replicating and recording actions of host software objects traversing the grid environment in order to gather and determine operations metrics of such software objects, as in the present invention.

In view of the above, it is believed that the present invention is patentable over the art because neither Boukobza nor Putzolu, individually or in combination, discloses or suggests the present invention. Applicants thus respectfully request that the claims rejections under 35 U.S.C. § 102 and 103 be withdrawn.

## **CONCLUSION**

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the

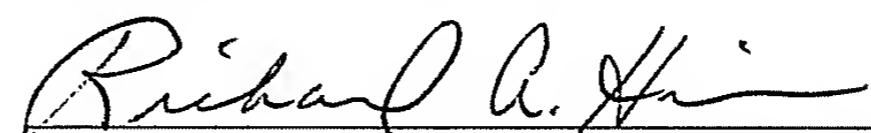
Appln No. 10/666,307  
Amendment dated August 6, 2007  
Reply to Office Action of May 4, 2007  
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Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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